WORK UNIT SUMMARIES

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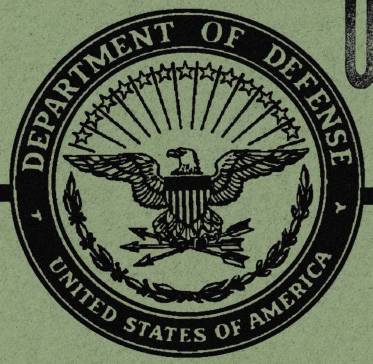

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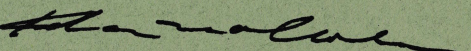

KURT N. MOLHOLM
Administrator
Defense Technical Information Center

DEPARTMENT OF DEFENSE

RESEARCH AND TECHNOLOGY WORK UNIT INFORMATION SYSTEM

REPORT ON:

UNIV CAL./IRVINE CONTRACTS/GRANTS

SCN: WG3063-951116-214095

PROCESSED: NOV 16, 1995

REQUESTED BY:

HON. E.H.NORTON/L.SCOTT

25643
TO: DEF TECHNICAL INFO CTR
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SEARCH CONTROL NUMBER: WG3063

SEARCH STRATEGY

THE TERMS BELOW WERE SEARCHED BY THE COMPUTER. TRUNCATED RETRIEVAL TERMS INDICATE THAT ALL TERMS WITH THE DEPICTED ROOT HAVE BEEN SEARCHED. TERMS WITH A HIERARCHICAL RELATIONSHIP TO RETRIEVAL TERMS ARE ALSO INCLUDED BELOW. WHEN PARTIAL FILE SEARCHING HAS BEEN APPLIED, DATE RETRIEVAL TERMS ARE DISPLAYED UNDER FIRST LEVEL SEARCH TERMS. EXCLUDED RETRIEVAL TERMS ARE DISPLAYED UNDER EXCLUDE TERMS.

FIRST LEVEL SEARCH TERMS

387300
389352
403610
403784
405264
410606
410974
414577
399051
403148
403659
406322
407022
407986
409454
421785
409991
408431
410280
410899
424426
415768
407000
408459
420785
416493
408641
410371
412961
416172
420464

SECOND LEVEL SEARCH TERMS

DAAH0493G0188
DAAH0493G0028
DAAL0392G0239
DAAL0392G0203
N0001490J1675
F1962893C0136
N0001491J1143
N0001491J1502

THIRD LEVEL SEARCH TERMS

A

A C C O U N T A B I L I T Y R E C O R D

RESEARCH AND TECHNOLOGY WORK UNIT INFORMATION SYSTEM

D T I C S E A R C H C O N T R O L N O. WG3063

A LIST OF THE SELECTED RECORDS FOLLOW. EACH ENTRY SHOWS: (1) THE AGENCY ACCESSION NUMBER, (2) THE SECURITY CLASSIFICATION CODES OF THE REPORTED FIELDS, (3) THE DISTRIBUTION CODE, AND (4) THE REGRADING CODE.
* INDICATES THERE IS NO NARRATIVE DATA PRESENT.

A - DISTRIBUTION UNLIMITED
B - U.S. GOVT ONLY
C - U.S. GOVT AND THEIR CONTACTORS ONLY
D - DOD AND THEIR CONTRACTORS ONLY
E - DOD ONLY

RD RESTRICTED DATA. THE TERM RESTRICTED DATA MEANS ALL DATA CONCERNING: (1) DESIGN, MANUFACTURE, OR UTILIZATION OF ATOMIC WEAPONS, (2) THE PRODUCTION OF SPECIAL NUCLEAR MATERIAL OR (3) THE USE OF SPECIAL NUCLEAR MATERIALS IN PRODUCTION OF ENERGY, BUT SHALL NOT INCLUDE DATA DECLASSIFIED OR REMOVED FROM THE RESTRICTED DATA CATEGORY PURSUANT TO SECTION 142 OF THE UNITED STATES ATOMIC ENERGY ACT OF 1954 AS AMENDED.

FRD FORMERLY RESTRICTED DATA. INFORMATION WHICH HAS BEEN REMOVED FROM THE RESTRICTED DATA CATEGORY PURSUANT TO SECTION 142(A) OF THE ATOMIC ENERGY ACT OF 1954 AS AMENDED.

REGRADING - CONSULT WITH DTIC TO DETERMINE COMPLETE CLASSIFICATION AUTHORITY, DURATION, AND CHANGE MARKING.

D T I C S E A R C H C O N T R O L N O. WG3063

AGENCY ACCESSION	RECD	WORK	APPR	OBJV	PROG	PROD	DSCR	DIST CODE	ADD NOT	RE-GRD
DA322612	U	U	U	U	U	U	U	A		
DA322673	U	U	U	U	U	U	U	A		

WG3063 STATISTICS NOV 16, 1995 (951116)

DIGRAPH	UNCLASSIFIED	CONFIDENTIAL	SECRET	TOTAL
DA	2	0	0	2

DISTRIBUTION CODES	TOTAL
A - DISTRIBUTION UNLIMITED	2
B - U.S. GOVT ONLY	0
C - U.S. GOVT AND THEIR CONTRACTORS ONLY	0
D - DOD AND THEIR CONTRACTORS ONLY	0
E - DOD ONLY	0
* - NO DATA AVAILABLE	0
TOTAL	2

TABLE OF CONTENTS

TITLE	PAGE
THE ENHANCED BACKSCATTERING OF LIGHT FROM RANDOM SURFACES & RELATED PHENOMENA 28974-PH	1
PHONONS, POLARITONS, ELECTRONIC CARRIERS & LASER DAMAGE 30586-PH	2

UNCLASSIFIED
SCN: WG3063-951116-214095 NOV 16, 1995
DTIC FORMAT BO105

WORK UNIT INFORMATION SYSTEM (WUIS) WORKSHEET

1. ACC. NUMBER	1A. ACT CODE	2. TRANS TYPE	3. STAT OF EFF.	4. PERF METHOD
DA322612	AMCA	M	D	G

5. PERF. TYPE	6. DATE SUM	7. PREV SUM DATE	8. START DATE	9. END DATE
R	23 MAY 1995	05 DEC 1994	AUG 1992	14 AUG 1996

10. EFF SEC CODE	11. EFF SEC ADD NOTICE	12. RCD SEC CODE	13. RCD SEC ADD NOTICE
(U)		(U)	

14. CLASSIFICATION AUTHORITY	15. REGRADE CODE	16. REGRADE DATE

17. REGRADING EVENT	18. DIST CODE	19. DIST REASON
	A	PB

20 TITLE THE ENHANCED BACKSCATTERING OF LIGHT FROM RANDOM SURFACES & RELATED PHENOMENA 28974-PH

21. SUB REC IND	22. LINK ACCESS NO.	23. LOCAL CTRL NO.	24. SEARCH DATA
		28974-PH	N/A

25. SUBJECT CATEGORIES
A: 2006 OPTICS
B:
C:

26.1 MISSION AREA CODE	26.2 FUNCTION CODE	26.3 TECHNOLOGY CODE
A:	A:	A:
B:	B:	B:
C:	C:	C:

27. RESP ORG SOURCE CODE	27.1 RESP ORG NAME
040900	ARMY RESEARCH OFFICE RESEARCH TRIANGLE PARK NC

27.2 RESP ORG COMPONENT NAME
PHYSICS DIVISION

27.3 RES ORG LOCATION
NC 00000 GEOPOL: 3704

27.4 RESP INDIV NAME	27.5 RESP INDIV OFF SYM	27.6 COMM PHONE NO.
GUENTHER, B D	AMXRO-PH	919-549-0641
		27.7 DSN NO 832-0641

28. PERF ORG SOURCE CODE	28.1. PERF ORG NAME
387300	CALIFORNIA UNIV IRVINE

28.2 PERF ORG COMPONENT NAME
UNIVERSITY OF CALIFORNIA, IRVINE DEPARTMENT OF

28.3 PERF ORG LOCATION
IRVINE CA 00000 GEOPOL: 0640

28.4 PRIN INVEST NAME	28.5 PRIN INVEST OFF SYM	28.6 COMM PHONE NO.
MARADUDIN, A A		714-856-5943
		28.7 DSN NO

28.8 ASSOC INVEST NAMES
WALLIS, R

30. PRIMARY FUNDING DATA

30. PRIMARY PE NO	30A. PRI PROJ NO	30B. PRI TASK NO

0601102A 1L161102BH57 07

FISCAL YR.		DOLLARS (K)		WORK YRS.	
C1.		C2.	0	C3.	
D1.		D2.	0	D3.	
E1.		E2.	0	E3.	
F1.	94	F2.	100	F3.	02.0
G1.	93	G2.	100	G3.	02.0

31. 1ST CONTRIBUTING FUNDING DATA

31. 1ST CONTRIB PE NO 31A. 1ST CONTRIB PROJ NO 31B. 1ST CONTRIB TASK NO

FISCAL YR.		DOLLARS (K)		WORK YRS.	
C1.		C2.	0	C3.	
D1.		D2.	0	D3.	
E1.		E2.	0	E3.	
F1.		F2.	0	F3.	
G1.		G2.	0	G3.	02.0

32. 2ND CONTRIBUTING FUNDING DATA

32. 2ND CONTRIB PE NO 32A. 2ND CONTRIB PROJ NO 32B. 2ND CONTRIB TASK NO

FISCAL YR.		DOLLARS (K)		WORK YRS.		33. ROLLUP IND
C1.		C2.	0	C3.		C.
D1.		D2.	0	D3.		D.
E1.		E2.	0	E3.		E.
F1.		F2.	0	F3.		F.
G1.		G2.	0	G3.		G.

34.CONTR./GRANT/TRANS. NO. 34.1 CONTR. EFF. DATE 34.2 CONTR.EXPIR. DATE
DAAL0392G0239 14 AUG 1995 14 AUG 1996

34.3 CONTR. FACE VALUE 34.4 CONTR. CUMMULATIVE TO DATE
50 300

35. KEYWORDS BACKSCATTERING, LIGHT SCATTERING, METALS, DIELECTRICS, ROUGH SURFACES

36. OBJECTIVE (U) DTIC SEARCH CONTROL NO. VOJO4B. A COMBINED THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE PHENOMENON OF ENHANCED BACKSCATTERING OF RADIATION INLCUDING ASSOICATED PHENOMENA THAT MANIFEST THEMSELVES IN A VAREITY OF METALLIC AND DIELECTRIC STRUCTURES WITH ENSUING NONLINEAR EFFECTS. RELEVANCE. THE PROPOSED WORK IS HIGHLY RELEVANT TO THE ARMY AND TO DOD AT LARGE FOR THE GNEERATION OF SIGNATURES FOR IFF. OTHER APPLICATIONS WILL INCLUDE CAMOUFLAGE AND A HOST OF COMMERCIAL APPLICATION, FOR EXAMPLE, FOR AIR-TRAFFFIC CONTROL.

37. APPROACH (U) ANALYTICAL AND NUMERICAL APPROACHES WILL BE DEVELOPED TO INVESTIGATE THE PHENOMENON OF ENHANCED BACKSCATTERING OF RADIATION. THE THEORETICAL WORK WILL USE MONTE CARLO SIMULATIONS AS WELL AS ANALYTICAL GREEN'S FUNCTIONS AND PERTURBATIVE METHODS. SPECIFIC TWO-DIMENSIONAL RANDOMLY ROUGH SURFACES WILL BE GENERATED AT SURFACE OPTICS CORPORATION TO SUPPORT THESE STUDIES. HIGHER THAN THE FIRST MOMENT OF THE DISTRIBUTION FUNCTION OF SCATTERED RADIATION WILL BE STUDIED BOTH THEORETICALLY AND EXPERIMENTALLY, VIA THE ASSOCIATED SPECKLE CONTRAST, INTENSITY CORRELATION FUNCTIONS IN COLLABORATION WITH SURFACE OPTICS CORPORATION.

38. PROGRESS (U) NONE TO REPORT.

39.5 PRODUCT INDICATOR 40. DOM TECH TRANS. 41. STUDY CAT 42. SPEC STUDY SUB
Y NO

44. PRIM PROJ. SERIAL NO. 45. INTL SOURCE CON 46. PROC DATE 47. RECEIPT DATE
H57 Y 28 JUN 1995 08 JAN 1993

48. DESCRIPTORS (U) BACKSCATTERING, CAMOUFLAGE, COMMERCE, CONTRAST, CONTROL, CORRELATION, DIELECTRICS, DISTRIBUTION FUNCTIONS, FUNCTIONS(MATHEMATICS), GREENS FUNCTIONS, INTENSITY, LIGHT, LIGHT SCATTERING, METALS, MOMENTS, MONTE CARLO METHOD, NONLINEAR SYSTEMS, NUMERICAL METHODS AND PROCEDURES, OPTICS, RADIATION, SCATTERING, SEARCHING, SIMULATION, SPECULAR REFLECTION, STRUCTURES, SURFACE ROUGHNESS, SURFACES, THEORY, TWO DIMENSIONAL

49. THRUST AREAS

39.0 PRODUCT

WORK UNIT INFORMATION SYSTEM (WUIS) WORKSHEET

1. ACC. NUMBER	1A. ACT CODE	2. TRANS TYPE	3. STAT OF EFF.	4. PERF METHOD
DA322673	AMCA	M	D	G

5. PERF. TYPE	6. DATE SUM	7. PREV SUM DATE	8. START DATE	9. END DATE
R	08 MAY 1995	07 FEB 1995	MAR 1993	14 DEC 1995

10. EFF SEC CODE	11. EFF SEC ADD NOTICE	12. RCD SEC CODE	13. RCD SEC ADD NOTICE
(U)		(U)	

14. CLASSIFICATION AUTHORITY

15. REGRADE CODE

16. REGRADE DATE

17. REGRADING EVENT

18. DIST CODE: A

19. DIST REASON: PB

20 TITLE PHONONS, POLARITONS, ELECTRONIC CARRIERS & LASER DAMAGE 30586-PH

21. SUB REC IND	22. LINK ACCESS NO.	23. LOCAL CTRL NO.	24. SEARCH DATA
		30586-PH	N/A

25. SUBJECT CATEGORIES
- A: 0903 LASERS AND MASERS
- B: 2012 SOLID STATE PHYSICS
- C: 0901 ELECTRICAL AND ELECTRONICS EQUIPMENT

26.1 MISSION AREA CODE	26.2 FUNCTION CODE	26.3 TECHNOLOGY CODE
A:	A:	A:
B:	B:	B:
C:	C:	C:

27. RESP ORG SOURCE CODE: 040900

27.1 RESP ORG NAME: ARMY RESEARCH OFFICE RESEARCH TRIANGLE PARK NC

27.2 RESP ORG COMPONENT NAME
PHYSICS DIVISION

27.3 RES ORG LOCATION
NC 00000 GEOPOL: 3704

27.4 RESP INDIV NAME	27.5 RESP INDIV OFF SYM	27.6 COMM PHONE NO.
GUENTHER, B D	AMXRO-PH	919-549-0641
		27.7 DSN NO 8320641

28. PERF ORG SOURCE CODE: 387300

28.1. PERF ORG NAME: CALIFORNIA UNIV IRVINE

28.2 PERF ORG COMPONENT NAME
UNIVERSITY OF CALIFORNIA, IRVINE DEPARTMENT OF

28.3 PERF ORG LOCATION
IRVINE CA 00000 GEOPOL: 0640

28.4 PRIN INVEST NAME	28.5 PRIN INVEST OFF SYM	28.6 COMM PHONE NO.
BRON, W E		714-856-4345
		28.7 DSN NO

28.8 ASSOC INVEST NAMES

30. PRIMARY FUNDING DATA

30. PRIMARY PE NO	30A. PRI PROJ NO	30B. PRI TASK NO
0601102A	1L161102BH57	07

FISCAL YR.		DOLLARS (K)		WORK YRS.	
C1.		C2.	0	C3.	
D1.		D2.	0	D3.	
E1.	95	E2.	20	E3.	00.4
F1.	94	F2.	20	F3.	00.4
G1.	93	G2.	20	G3.	00.4

31. 1ST CONTRIBUTING FUNDING DATA

31. 1ST CONTRIB PE NO | 31A. 1ST CONTRIB PROJ NO | 31B. 1ST CONTRIB TASK NO

FISCAL YR.		DOLLARS (K)		WORK YRS.	
C1.		C2.	0	C3.	
D1.		D2.	0	D3.	
E1.		E2.	0	E3.	
F1.		F2.	0	F3.	
G1.		G2.	0	G3.	00.4

32. 2ND CONTRIBUTING FUNDING DATA

32. 2ND CONTRIB PE NO | 32A. 2ND CONTRIB PROJ NO | 32B. 2ND CONTRIB TASK NO

FISCAL YR.		DOLLARS (K)		WORK YRS.		33. ROLLUP IND
C1.		C2.	0	C3.		C.
D1.		D2.	0	D3.		D.
E1.		E2.	0	E3.		E.
F1.		F2.	0	F3.		F.
G1.		G2.	0	G3.		G.

34.CONTR./GRANT/TRANS. NO. | 34.1 CONTR. EFF. DATE | 34.2 CONTR.EXPIR. DATE
DAAH0493G0028 | 14 MAR 1995 | 14 DEC 1995

34.3 CONTR. FACE VALUE | 34.4 CONTR. CUMMULATIVE TO DATE
20 | 60

35. KEYWORDS LASER BEAMS, LASER DAMAGE, ELECTRONIC CARRIERS, PLLARITONS, PHONONS, SEMICONDUCTORS, DIAMOND, AMORPHOUS MATERIALS, CARBON

36. OBJECTIVE (U) DTIC SEARCH CONTROL NO. VOJ52E. TO DETERMINE THE EFFECT O LASER LIGHT ON THE DYNAMICS OF ELECTRONIC CARRIERS, AND WHERE POSSIBLE, ON POLARITONS AND PHONONS IN SMALL AND LARGE GAP SEMICONDUCTORS, NORMAL AND SUPERCONDUCTING METALS, AMORPHOUS DIAMOND, AND C60 FILMS. RELEVANCE. THE RESEARCH HAS POTENTIAL RELEVANCE TO LASER TECHNOLOGY RELATED APPLICATIONS FOR THE ARMY.

37. APPROACH (U) EXPERIMENTATION TO BE CARRIED OUT AT THE ULTRASHORT PULSE LASER FACILITY. COHERENT RAMAN EXCIATIONS AND TIME-RESOLVED COHERENT ANTI-STOCKES RAMAN SCATTERING WILL BE USED, UP TO A FEW TENS OF FENTOSECOND RESOLUTION TO TRACK THE DYNAMICAL PROCESSES THAT LEAD TO LASER DAMAGE AND OTHER DYNAMICAL PHENOMENA.

38. PROGRESS (U) NONE TO REPORT.

39.5 PRODUCT INDICATOR | 40. DOM TECH TRANS. | 41. STUDY CAT | 42. SPEC STUDY SUB
Y | LO

44. PRIM PROJ. SERIAL NO. 45. INTL SOURCE CON 46. PROC DATE 47. RECEIPT DATE
H57 Y 08 JUN 1995 19 MAR 1993

48. DESCRIPTORS (U) AMORPHOUS MATERIALS, CARBON, CONTROL, DIAMONDS, DYNAMICS, FACILITIES, LASER BEAMS, LASER DAMAGE, LASERS, METALS, PHONONS, PULSED LASERS, RESOLUTION, SEARCHING, SEMICONDUCTORS, SHORT PULSES, SUPERCONDUCTORS

49. THRUST AREAS

39.0 PRODUCT

CONGRESSWOMAN
ELEANOR HOLMES NORTON
DISTRICT OF COLUMBIA

95 DEC -1 PM 12:43